

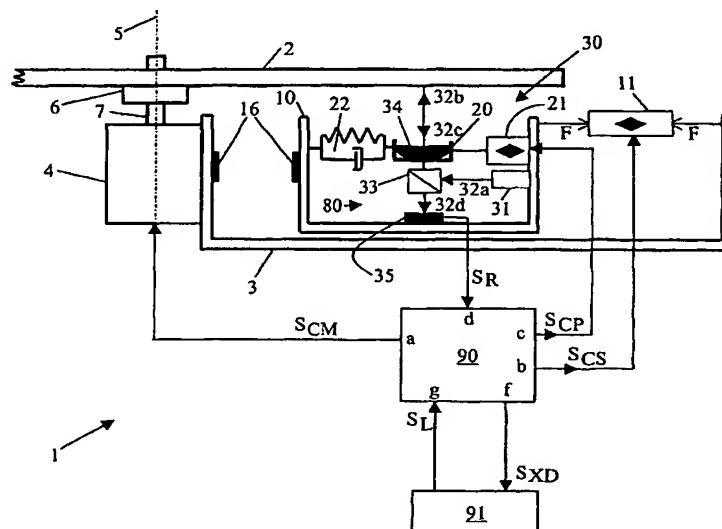
**(19) World Intellectual Property  
Organization  
International Bureau**



**(10) International Publication Number**  
**WO 2004/013848 A1**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH,

**(54) Title:** DISC DRIVE APPARATUS



**(57) Abstract:** A disc drive apparatus (1) comprises a sledge (10) radially displaceable with respect to an apparatus frame (3); a platform (20) radially displaceable with respect to said sledge (10); a controllable sledge actuator (11) for moving the sledge (10) radially with respect to said apparatus frame (3); a control unit (90) for controlling said sledge actuator (11); a sledge stop detection means capable of detecting that the moving sledge (10) comes to a standstill. Said sledge stop detection means comprises radial displacement detection means for detecting a radial displacement of said platform (20) with respect to said sledge (10). Said control unit (90) receives an input signal (SXD) from said sledge stop detection means and is responsive to said input signal to switch off said sledge actuator (11) when said input signal (SXD) indicates that said moving sledge (10) has come to a standstill.

**WO 2004/013848 A1**



PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

**Published:**

— with international search report

## INTERNATIONAL SEARCH REPORT

PCT/IB 03/03110

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G11B7/085

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G11B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 42 43 234 A (THOMSON BRANDT GMBH) 23 June 1994 (1994-06-23) abstract column 4, line 21 - column 7, line 44 column 10, line 12 - line 47; figures 1-10, 21-23	1,2
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 20, 10 July 2001 (2001-07-10) & JP 2001 067680 A (HITACHI LTD), 16 March 2001 (2001-03-16) abstract	1,2
A	US 4 977 554 A (HANGAI TOSHIMASA ET AL) 11 December 1990 (1990-12-11) abstract column 4, line 8 - column 5, line 19	1,7,8
-/--		

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

2 December 2003

Date of mailing of the international search report

16/12/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Annibal, P

## INTERNATIONAL SEARCH REPORT

PCT/IB 03/03110

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 01, 30 January 1998 (1998-01-30) & JP 09 245354 A (HITACHI LTD), 19 September 1997 (1997-09-19) abstract -----	1,7,8

## INTERNATIONAL SEARCH REPORT

PCT/IB 03/03110

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
DE 4243234	A	23-06-1994	DE	4243234 A1	23-06-1994
JP 2001067680	A	16-03-2001	NONE		
US 4977554	A	11-12-1990	JP	2220277 A	03-09-1990
			JP	2567470 B2	25-12-1996
JP 09245354	0 A		NONE		